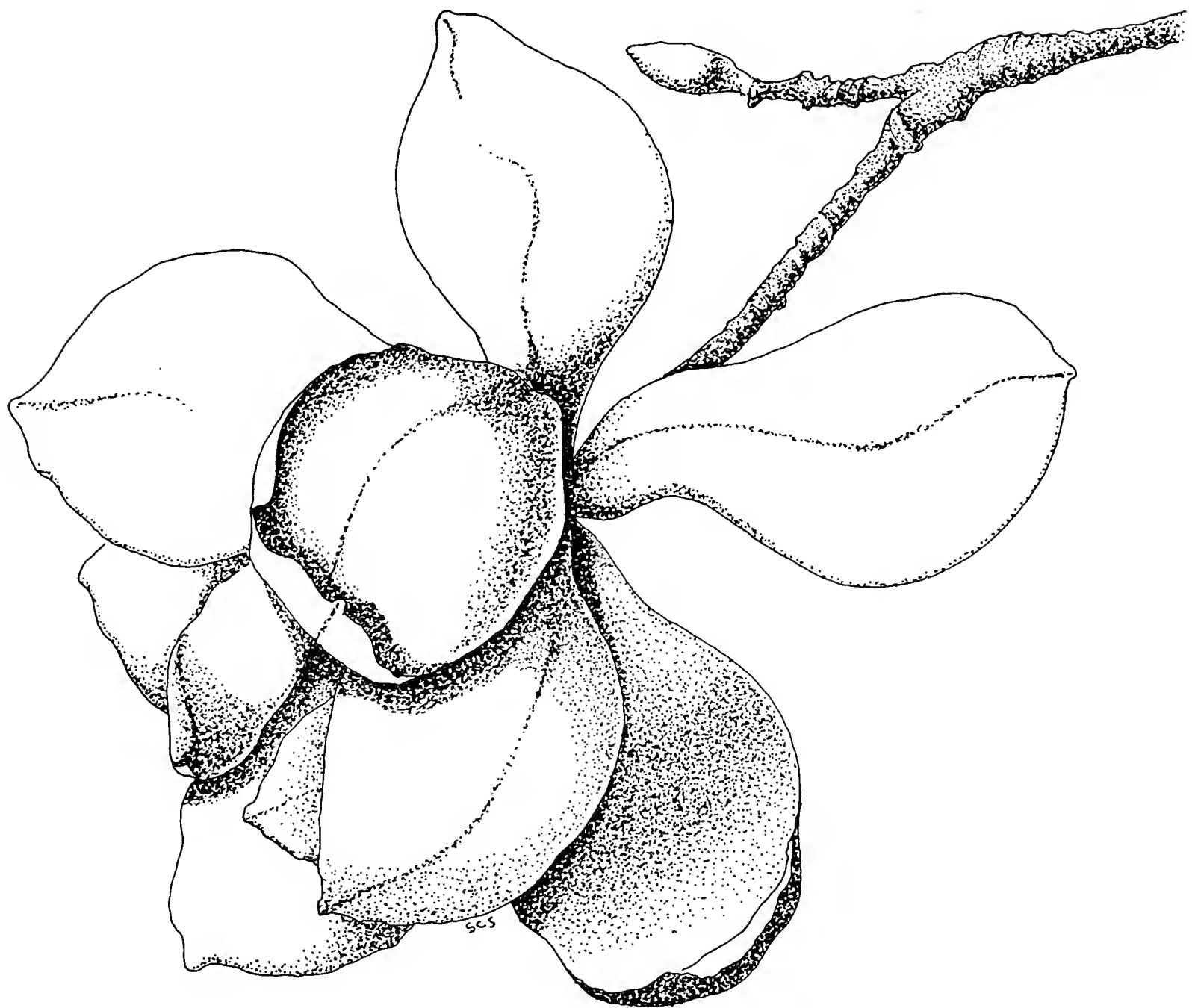


Horticulture Northwest

Journal of the Northwest Horticultural Society



Volume 13

Number 1

Spring 1986

Horticulture Northwest is published quarterly by the Northwest Horticultural Society. Yearly membership dues start at \$20.00. Address communications regarding membership to:

Membership Chairman, Vernetta Cunningham
Northwest Horticultural Society
University of Washington
Center for Urban Horticulture
Seattle, Washington 98195

We welcome original articles, artwork and black and white photographs from contributors. Back issues of the Journal are available to members at \$2.50 each.

Editor:

Sallie Allen
18540 26th Avenue Northeast
Seattle, Washington 98155

Art Editor:

Dennis Thompson

Ad Manager:

Martin E. Walters
University Plaza, Suite 206
5025 25th Northeast
Seattle, Washington 98105
Office: (206) 523-7911

Editorial Staff and Advisors:

Dr. William H. Hatheway	Mr. Marvin Black
Mrs. E. C. Darts	Mr. Brian O. Mulligan
Mrs. Leo P. Cunningham	Miss Margaret Martin

1983-1984 BOARD OF DIRECTORS:

President:
Mr. John A. Putnam

1st Vice President:
Mrs. Hershell Boyd

2nd Vice President:
Mrs. James R. Scott

3rd Vice President:
Mrs. Barbara Lindberg

Recording Secretary:
Mrs. John A. Moore

Corresponding Secretary:
Mrs. Ward M. Doland

Treasurer:
Mrs. Arthur R. Taylor

Past President:
Miss Katherine Carey

Term to 1986:

Mrs. Sallie D. Allen	Mrs. James H. Madison
Mrs. Herschell Boyd	Mrs. John A. Moore
Mrs. Joseph L. Carman	Mrs. John A. Putnam
Mrs. William L. Gorman	Dr. James Warren
Mrs. Chauncey E. Hazen	

Term to 1987:

Mrs. Gordon B. Anderson	Mrs. J. C. Michel
Mrs. Trudy N. Baldwin	Mrs. E. L. Pierce Milholland
Miss Katherine Carey	Mrs. Robert Mullarky
Mrs. Leo P. Cunningham	Mrs. Richard E. Parks
Mrs. Alexander M. Fisk	Mrs. Harold B. Tukey

Term to 1988:

Mrs. Lucius Andrew, III	Mr. Donald Harris
Mrs. Ward Doland	Mr. Peter Johanson
Mr. Cyrus Happy, III	Mrs. Charles E. Lile
Mrs. Dutton Hayward	Mrs. Barbara Lindberg
Mrs. Arthur Taylor	

Horticulture Northwest

Volume 13 Number 1
Spring 1986

Sallie D. Allen, Editor

CONTENTS

When Spring Comes Bernard Jackson	1
Plants to See in Spring Kathy Mendelson	4
Stalking Morels with Child and Beast Sally J. Burlscher	7
"Okpicksu-u", The Place of the Willows John Putnam	10
Introducing Mr. Timothy Hohn Dr. Harold B. Tukey, Jr.	17
NOHS Nursery Snooper Pat Bender	18
Book Reviews	19



Cover Illustration

Magnolia sprengeri
Sylvia Chelsey Smith

WHEN SPRING COMES

Bernard S. Jackson, Curator, The Memorial University Botanical Garden
St. John's, Newfoundland

It has been said that Newfoundland experiences seven months of winter and five months of bad weather. Certainly, the seasons do not seem to be so obviously different now as they were twenty-eight years ago when I arrived here. Indeed, were it not for the hearty song of stalwart robins and fox sparrows cutting through the icy fog enshrouding our Botanical Garden, there are years when the spring could almost go by unnoticed. Unnoticed, that is, were it not for the spring flowers. Flowers that cheerfully come forth, hugging the ground in sheltered pockets, apparently oblivious of the wind moving inland from the sea, across the arctic ice brought down by the Labrador current.

The first flowers we watch for are those of the *empetrums*. They are so tiny you need a hand lens to fully appreciate their beauty. We have three native species, *Empetrum nigrum*, *E. atropurpureum* and *E. eamesii*. They will all form quite dense mats. The latter species, when in fruit, is very striking, with its multitude of bright, dark pink berries against the soft pale green of its prostrate, evergreen foliage. *E. eamesii* grows in thin, gritty, nutrient-poor earth on the windswept tops of our hills. One good site is within an hour's drive of St. John's, our capital city. It can be easily seen there, rubbing shoulders with such treasures as *Diapensia lapponica*, *Loiseleuria procumbens* and *Arctostaphylos alpina*.

Our native *Saxifraga oppositifolia* blooms early too, some years before the snow has completely gone. At such time, the partly opened buds of a good deep purple form look very striking against the halo of glistening white. In our small scree bed, one can also see the tight buns of *S. burseriana* 'Sulphurea' and *S. b.* 'Magna' blooming under similar conditions. As soon as ground warms up enough to stir the soil's wildlife, our local ants are quick to put in an appearance and harvest some of the petals from the purple saxifrage. Why they do this is a mystery to me. Up until recently, I have tried to ignore this minor act of piracy but now, unfortunately, they have started to modify the soil in some areas of the rock garden, to the detriment of the plants, and so will have to be dealt with more harshly.

The lungworth, Bethlehem sage or soldiers and sailors are early bloomers, but somewhat coarse once the leaves are well under way. Many people won't give them the time of day, but believe me, in my own area anything that blooms early and helps to uplift one's spirit is more than welcome. Actually, *Pulmonaria angustifolia* is, I feel, rather pleasant and a good deep blue, certainly worth a place in the larger rock garden. It needs to be kept away from the choicer, more genteel plants though, for it can take over the surrounding ground with some determination.

Another early bloomer is *Jeffersonia dubia* (syn *J. manchuriensis*). Some forms of this plant seem to have pale, washed-out blooms so it is wise to buy or propagate only those with the deep, rich blue color. This eastern Asian native grows well in a cool, moist, but well-drained mixture of shredded peat, coarse sand and well-decomposed leaf mold. Its flowers come first, but the

plant then has an added decorative value because its foliage springs up like a clump of leafy umbrellas of a most pleasing coppery color.

I have always felt disappointed with *Heloniopsis breviscapa* because so many growers rave over it, yet we are still waiting to see what all the excitement is about! It grows reasonably well for us, but then loses face when it tries to bloom. In fairness, I think that it is probably our uncouth spring weather than renders it such an unsightly mess as soon as it attempts to flower. Maybe we need to grow it in an alpine house, but, alas, such a facility is a long way off, given the present state of our economy.

Probably every botanical garden has the double bloodroot, *Sanquinaria canadensis* forma *multiplex* (syn. S. c. 'Flore Plena'). It grows well for us, but I am always disappointed at how fleeting the blooms are. The large kidney-shaped leaves that follow the sparkling white flowers add interest for a while, but become scruffy and then need hiding by something taller. I find them difficult to weed without damaging them, especially if some other plant such as the Welsh poppy, *Meconopsis cambrica* happens to dust the clump with seed. Oh, yes, I know this sort of thing should not be allowed to happen, but then who amongst us is perfect?

I love to see the Marsh Marigold, *Caltha palustris* push through the damp, rich earth in spring. They remind me of the water meadows of home, when I was a boy in England. Their shiny, succulent looking leaves and tight green buds are, to me, a great harbinger of spring. We do, of course, have the double-flowered form *C. p. var plena* as well and, though some gardeners may find the blooms somewhat gross, I personally rather like it. The flowers last much longer than those of the species, adding a lovely flash of golden yellow against the primulas.

We are presently experimenting with primroses in The Garden and, though we still have a long way to go, are nevertheless finding many that are suited to our climate. One of my personal favorites, one we almost have to put an armed guard on when in bloom, is *Primula viali*. This one is so late appearing in spring I always worry that the winter has killed it. Of the early flowerers, *Primula juliana* 'Wanda' has always been a local favorite, while *P. j.* 'Mrs. King' with its pinker flower, is fast gaining admirers. The drumstick primrose, *P. denticulata* was first grown in Newfoundland (as far as I know) about twenty years ago, but recently it has gained a well-deserved popularity. What a shame it turns into such a cabbage after flowering, for it then takes up far more room than can be afforded in a small garden. *P. marginata* takes no notice whatsoever of our rotten weather, blooming quite happily, year after year, providing it is jammed in a rock crack or some other such site where it can keep its neck lifted above the cold, slushy snow.

What would spring be without trout lilies pushing up amongst a light covering of last year's leaves? We are growing ours in two different types of earth. Some we have in a mixture of coarse sand, shredded peat and a touch of leafmold, whereas others are in a richer mixture of clayey soil, peat, leafmold, sand and well-rotted farmyard manure. The latter mixture has our younger plants in it; however, it is a bit early to say how much better, if any, these plants will do over those in the more frugal mixture. We have *Erythronium tuolumnense* 'Pagoda', *E.* 'White Beauty' and *E. americanum* all doing well. Some years ago, I was given some of the long tuber-like bulbs of

E. 'Pink Beauty' which my friend said had never flowered for him. He had hoped that I could make the plant behave itself and flower but, alas, no such luck. Each spring it sends up a clump of four-inch-long, heavily spotted leaves to get me all excited, then does absolutely nothing!

Shortly after the snow goes, when the soil begins to warm up somewhat, the pasque flowers in our rock garden jump into life. The common *Pulsatilla vulgaris* has been with us for years and is a great favorite with our visitors. It self-sows itself sparingly but often in some rather useful places. I rather like the more dark purple variety 'Camla'. *P. vernalis* survives and flowers under protest, but it is not really happy. If our snow was dry, powdery and persistent, I think that this plant would be better pleased, but I really cannot blame it for hating being bombarded with frigid, slushy snow. *P. alpina sulphurea* has taken a long time to settle down from seed, but is now doing extremely well, particularly in our peat bed; it is a later bloomer than the others.

One can hardly think of spring without turning thought to the heathers. Names such as *Erica carnea* 'King George', *E. c.* 'Springwood Pink', *E. c.* 'Springwood White', *E. X darleyensis* 'Darley Dale', *E. X d.* 'Arthur Johnson', *E. X d.* 'Cherry Stevens' and *E. X d.* 'Silberschmelze', all come to mind. As an ardent lover of butterflies, the early flowering heathers are an added source of pleasure for me because they attract and help sustain the early species that have overwintered as adults. They are also valuable to the emerging queen bumble bees when little other nectar is available. Indeed, it is on the flowers of *Erica carnea* 'King George' where I usually record my first bumble bee for the season, around May 15.

As the spring fogs roll away and the sun creeps out to warm the surface of the rock garden and peat beds, I can think of only one better sight than that of our spring flowers bursting into bloom -- it is the movement of renewed butterfly and bee activity amongst the freshness and color of the treasured plant friends we have waited so long to meet again.

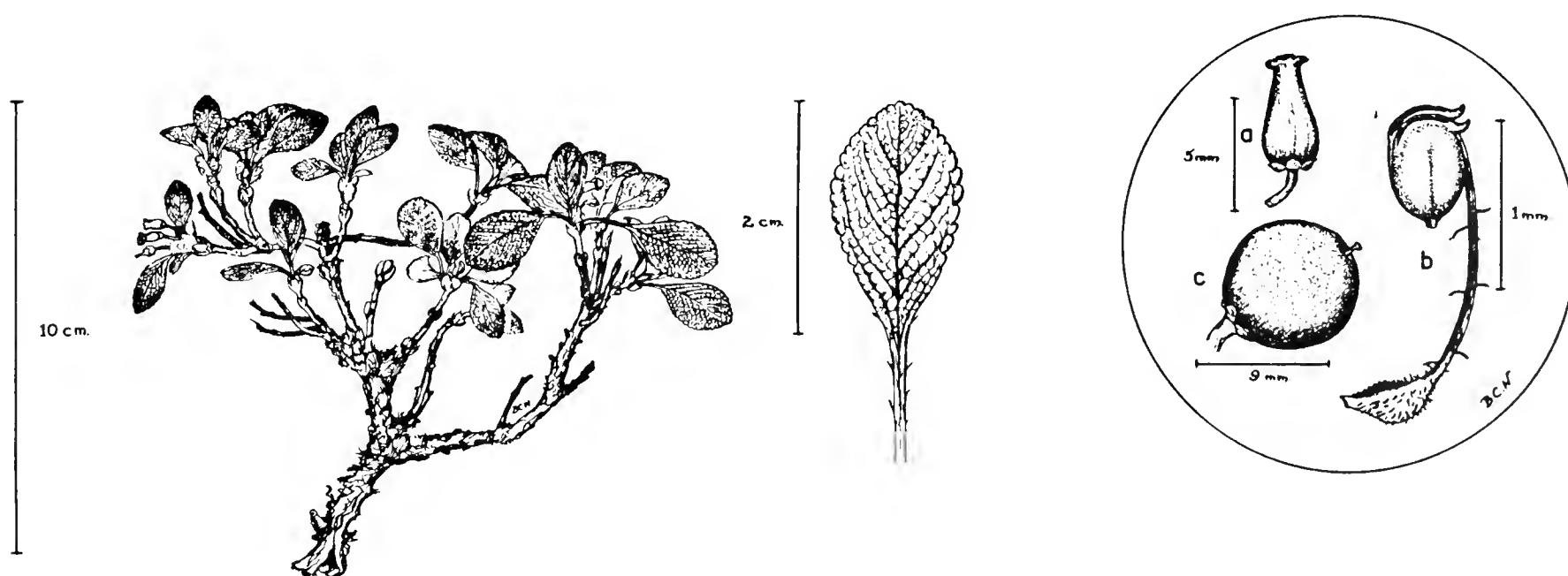


Fig. 1. p. 1
Arctostaphylos alpina

Alpine bearberry (*Arctostaphylos alpina* (L.) Spreng.)—a, single flower; b, stamen; c, fruit.

PLANTS TO SEE THIS SPRING IN THE CARL S. ENGLISH, JR. GARDEN

by Kathy Mendelson

This season, the Carl S. English, Jr. Garden's in-depth collections shine. Rhododendrons flower throughout the season. So do flowering cherries and magnolias. Other collections bloom for a shorter time. Early in March, the camellias flower in shades of pure white, pink and red. Late in the season, a half dozen different horse chestnuts flower as the garden makes the transition from spring to summer. No matter when you visit from March through May, you will see the showiest flower color of the year.

Spring comes early to the gardens. While winter lingers throughout much of Seattle, these gardens bask in an early spring created by the moderating influence of Puget Sound. Temperatures here are relatively mild in winter, and some winters pass without a freeze. The plants respond to the mild weather by blooming perhaps two weeks earlier than in the cooler areas of Seattle.

The few unseasonably warm days that appear each February force a handful of camellia buds into flower. By March, flowers appear in earnest. In front of the Visitor Center, in Bed 304, look for a number of *Camellia japonica* varieties. A hybrid, known as C. X 'Bow Bells' flowers early, with masses of single, hot pink flowers shaped, as its name suggests, like a bell. Look around the corner and down the walk, in Bed 318, for the unabridged version of a camellia blossom. Tall and lanky, *C. reticulata* shows off its very large, clear pink flowers in March.

Valued throughout the year for the texture and rich greens of their foliage, the Rhododendron collection includes 50 species and another 100 hybrids. With so many specimens, the collection suggests how big, and how small, rhododendrons can be. *R. loderi* 'King George', makes a small tree in Bed 109. In Bed 304, it is pruned low, so you can enjoy the watermelon scent of its flowers. At the other extreme, *R. hippophaeoides*, growing on a boggy site in Bed 108, is a low shrub. It produces dainty, deep lavender flowers.

In February, buds on the early blooming magnolias begin to swell. Soft as pussy willows, the first buff colored buds burst in March, releasing some of the showiest flowers in the garden. *Magnolia sprengeri*, a native of Tibet, shows off bright pink flowers that are large, yet graceful. Look for it in Bed 16. The garden's eighteen other magnolias will provide nearly continuous color until July.

Mr. English selected flowering cherries, including four species and a dozen cultivars, to provide color all spring. As the flowers on one tree fade, another begins to bloom, and the color continues. Judging by flower size and color, the collection saves its best for last. In May, the double form of the already double Kwanzan cherry flowers. The flowers of *Prunus serrulata* 'Yae Kwanzan' have forty to sixty petals each, covering the tree with rich pink.



Fig. 2.
Camellia 'Bow Bells'
Sylvia Chesley Smith

In both medium-sized shrubs and prostrate forms, *Ceanothus* flowers provide some of the best blues, and one of the cleanest whites in the garden. Late in spring, *C. X veitchianus* produces deep blue flowers in Bed 17. At about the same time, *C. thyrsiflorus* 'Millerton's White' is covered with white blossoms in Bed 308.

Scarlet horse chestnuts line the walkway from the main gate to the Administration Building. *Aesculus X carnea* 'Briotii' is the result of a naturally occurring cross between *A. hippocastanum* and *A. pavia*. Like some hybrids, this one blends characteristics of both parents. Its slightly cupped and crinkled leaves are intermediate between the large foliage of the common horse chestnut, in Bed 212, and the much smaller leaves of the red buckeye, in Bed 209. The rosy scarlet flowers match the color of red buckeye flowers; their shape is like that of common horse chestnut blooms.

The work of Edith Hardin English, Mr. English's wife, is seen in the garden's iris collection. Both species and old fashioned varieties are scattered throughout the garden. Perhaps the nicest is *Iris X aureonympha* 'Golden Nymph', an iris Mrs. English originated. In 1950, she was awarded the National Horticultural Achievement Award for this iris. Look for it in Bed 308.

Many spring flowers offer bright splashes of color. Others, like *Parrotiopsis jacquemontiana* in Bed 305 are quieter. The off-white flowers on this shrubby tree are reminiscent of our native dogwood. And like our dogwood, what looks like petals on this tree's flowers are actually showy bracts. These bracts surround the true flowers, which, like many stamens, are small and yellow. *Parrotiopsis* is a member of the witch hazel family, hamamelidaceae.

Spring also brings new foliage. The dawn redwood, a deciduous conifer, pushes out soft green shoots that expand and reveal new needles as the weather warms. *Metasequoia glyptostroboides* was first discovered as a fossil and was thought to be extinct. Then, in the early 1940's, about 1,000 Dawn Redwoods were found in central China. Mr. English obtained and planted a few of the first seeds brought back from these trees. While the specimen you see in Bed 12 may not be large, it is as old as any dawn redwood in this country.

We invite you to visit the Carl S. English, Jr. Gardens this spring. The gardens are located at the Hiram M. Chittenden Locks, 3015 N.W. 54th Street, Seattle. The gardens are open every day from 7 a.m. to 9 p.m. Bed numbers used in this article refer to a garden map available free from the locks' Visitor Center (Hours: 11 a.m. to 5 p.m., closed Tuesdays and Wednesdays).



1986 HARDY PLANT STUDY WEEKEND

GEORGE SCHENK, CHRISTOPHER LLOYD and BRIAN MATHEW are the overseas speakers for the 1986 HARDY PLANT STUDY WEEKEND, May 30-June 1 at Puget Sound Bible College in Edmonds. The weekend is composed of two evenings (Friday and Saturday) and two mornings (Saturday and Sunday) of talks and two afternoons (Saturday and Sunday) of open gardens. Christopher Lloyd maintains the family garden at Great Dixter and writes for Country Life and books. Brian Mathew is chief scientific officer for Royal Botanic Garden, Kew and has written a series of books in the past few years, including DWARF BULBS, THE LARGER BULBS, DAPHNE, THE CROCUS, THE IRIS and a forthcoming book on hellebores. George Schenk is a transplanted Pacific Northwest native, now gardening in New Zealand, received a special recognition from Governor Gardner for THE COMPLETE SHADE GARDENER. Slide talks for the weekend are:

George Schenk	Mosses and Lichens for the Garden
	New Zealand Gardens
Brian Mathew	Hellebores
	Lilies
Christopher Lloyd	To be announced
Faith Mackaness	The Quick and the Dead
Herb Dickson	The Taller Primulas
Sharon Collman	The Village of Hartsop
Maureen Phillips	Gardeners All
Dennis Thompson	Ecosystematic Design
Linda Engstrom	Art in the Landscape

Cost of the weekend before May 1 -- \$40, and after May 1 -- \$50. For more information or registration contact:

Voni Artiano
8628 - 59th Place West
Mukilteo, Washington 98275

STALKING MORELS WITH CHILD AND BEAST

Sally J. Burtscher, Edmonds, Washington

Some of my most vivid memories of childhood are of hunting morel mushrooms (*Morchella esculenta*). As a six-year-old, I remember crawling through the acres of mayapples (*Podophyllum peltatum*) and coming face-to-face with a Jack-in-the-pulpit (*Arisaema triphyllum*), a little brown Corgi (Pembroke), the entangled vines of poison ivy (*Rhus radicans*) and even the elusive mushroom or two.

These forays took place in northwestern Ohio in the remnants of woodland left by the Black Swamp of geologic history. These dense, wet, soggy places would yield up this delicate fungal fruiting body in late April or early May. As a child, I watched the twigs unfurl each spring. I became the family sentinel and would signal each spring that it was time to go to the woods. My best twig watching specimen became poison ivy. Since I am a prime candidate, I became expert at recognizing the naked stems as they lay in wait for me.

We had special places we would go to hunt; an irregular geometric patch of woodland surrounded by corn stubble with an adjacent mixture of pastures, orchards, homestead hunting lodge, which was owned by my Godfather's family (strictly the benign meaning here!). "The Buzzards Roost" would yearly let us harvest a modest crop of little tan morsels. We never found a bumper crop, but would be satisfied as we sat down to a meal of counted out portions among the three of us.

We would hear rumors of great harvest. In Cadillac, Michigan the town fire siren would blast the news of the season's first find. People from hundreds of miles away would drive there to join in the frenzy! We never went that far. We were content with finding: three along the railroad access road, four along the drainage ditch, ten under the mayapples, etc.

One year, when I was about eleven, while hunting separately, my father returned from a short distance to say he had found a few. When we all joined in the search area, we began to find them as fast as we could cut the stems! In circles, we collected round and round in a small thicket with a large tree in the middle. We realized not only had we found manna from heaven, but we were hunting at the foot of the infamous "Butternut Tree" (*Juglans cinerea*). The location of this tree having been hidden from my father for two generations by his best friend (and fathers before them). Only a mere taste of the nut was shared, even in a good year. So it goes with gourmet delights!!!

Chapter 2 (plus 10 years)

In 1970, I came to Seattle where all bets are off! First, I thought I'd left that silly little sponge on a stick behind with Cardinals and poison ivy. It's taken many years to get with the program. There's a pair of Cardinals at the zoo; I've seen that devil ivy in the Cascades, and I've even found a morel or two.

Some years I missed the cycle altogether -- living in the central city, I lost the telltale signals. I don't go to the "sticks" alone either. Now I have the recipe. I have a six-year-old son (*Humanoid destructus*), a Corgi (*Pembroke obstreperous*), and in my garden I'll always grow the lilac (*Syringa vulgares*). I have it not for its beauty, for I enjoy the newer varieties much more. I have it for what it tells me each spring. When the buds look like tiny, dark purple morels stretching out of the leaves, it's time to hit the road and drive east. From mid-March to Memorial Day, one can follow spring right up the mountains. The places and quality of product differ slightly, but now I know the secrets of Washington morels.

Perhaps we will meet you in the woods. Here's where you'll find us: along streams in willowy low spots, along railroad cuts, in old fallen down orchards for the choicest specimens, in stands of cottonwoods and vine maples along river flood plains (these impart the faint taste of tree and are not as choice). Forget any areas with alders or blackberries, for I've never found them there. Forget thick, grassy meadows. There must be little piles of last year's leaves and patches of bare ground, places where puddles of rain water have accumulated and perked slowly away is where to look. You'll also need a patient driver while your eyes are glued to twigs and tree tops. Someone with nerves of steel who won't mind as you scream and moan at the countryside. Someone who will stop at least every third likely area. Although not mandatory, a six-year-old and a corgi facilitate hunting, for they are close to the ground and, more than likely, will spot or trample the first specimen. Take along paper sacks (plastic lets them roll together in a jumble) and a pocket knife. Never, ever, put a mushroom with a tuft of soil still attached in the sack, for it makes cleaning difficult later. To cook: split large ones in half to remove resident critters, soak in salt water while cleaning no more than ten minutes each, pat dry and let stand for about an hour, roll in peppered flour, fry in butter until golden brown.

If you are lucky and find enough to save for later, clean, dry, roll and wrap in plastic and foil to freeze.

One last warning! I strongly advise that if you have any inclination toward insomnia, do not pursue this activity, for you will spend countless sleepless hours seeing these heavenly creations as you struggle to fall asleep.

See you in the woods!!!

Irate phone calls not accepted.

Fig. 3
by Dennis Thompson



Fern Specimens for Hyde Herbarium

The NOHS Fern Study Group has made a gift of 243 fern specimens to the Hyde Herbarium at the Center for Urban Horticulture. Most of the sheets were collected by Neill Hall, who has travelled widely and has run the American Fern Society's spore exchange program for many years. The specimens, mounted and labeled, were presented to the Herbarium Committee on December 9, along with a copy of The Fern Herbal by Elfriede Abbe, a handsome book signed by all the members of the group. Otis Hyde made the presentation and gave a short speech honoring Neill Hall, who was present. Herbarium curator, Dr. Clement Hamilton, and the Herbarium Committee (represented by Vera Frazier and Mary Booth) expressed their thanks for the gift and their anticipation of working with other plant study groups as well, to make the herbarium a useful resource for plant identification and horticultural selection.

Joyce Brewster
Center for Urban Horticulture

* * *

Northwest Horticultural Society Fern Study Group Honors Neill Hall

The major project of the NOHS Fern Study Group for the past several years has been the mounting of fern specimens so that the public would have access to an extensive herbarium collection at what was to become the Otis Hyde Herbarium at the Center for Urban Horticulture. While many species came from members' gardens, the collection unquestionably owes its depth and variety to the material collected by member Neill D. Hall over a period of many years of travel and correspondence with fellow fern specialists throughout the world. (Neill and his wife, Amy, also graciously shared their rec room with our Elmer's glue-armed crew to make the project possible!)

Neill is well known throughout the Northwest for his fern expertise and enthusiasm, generously sharing his knowledge at plant sales, garden shows and whenever opportunity presented a willing ear. He has served the national and international fern community for 25 years as chairman and sole organizer of the American Fern Society's spore exchange, to which many of us owe our prize garden ferns. For his service, the American Fern Society presented him their Award of Excellence.

On December 9, 1985, following a luncheon for Neill and Amy, the study group contributed the collection of 243 specimens to Dr. Clem Hamilton at the Center for Urban Horticulture. In honor of the occasion, Otis Hyde presented a copy of Abbe's The Fern Herbal to Neill and another copy in Neill's honor to the Elisabeth Miller Library at CUH. Thanks, Neill, for your inspiration and continued dedication to encouraging fern lovers and learners everywhere. Thank you, too, to Jan Dalby, who chaired the project.

Sue Olsen



"OKPICKSU-U", THE PLACE OF THE WILLOWS

John Putnam, Bellevue, Washington

In July 1973, I had been invited by Mr. Dave Fauske, the principal of the Barrow Day School Junior High, to work with him at an Environmental Education camp for Eskimo youth on the Okpicksu-u River about 50 miles south of Barrow, Alaska. The previous February I had presented a Science workshop for elementary teachers at the Barrow School. At that time, I had gotten a taste of the Arctic, i.e., 24-hour darkness and bitter cold, -30° to -50° Fahrenheit. Most of my sightseeing was in the school building or on the village streets, so I was looking forward to returning when I could really see and experience the Arctic wilderness.

After overnighthing in Barrow and a brief flight in a small, single-engine plane, we landed on the sandy banks of the Meade River. Bush pilots in Alaska make what may seem like emergency landings on rather a routine basis and make it look easy. The several student passengers, my wife, Grace, and I unloaded our gear and headed toward the camp. The pilot casually loaded up a few bags of dried fish, some caribou meat, two or three students and their gear and headed back to Barrow. He would make several more trips that day ferrying students out to camp.

All around us stretched the Arctic Plain of Alaska. It reaches from the west coast of Alaska east about 400 miles to the Yukon border and from the Brooks Range to the Arctic Ocean, 100 miles wide or so in most places. The rise in elevation is so gradual that both the tide and the pack ice of the ocean affected the level of the water at the camp twenty-five miles upstream. The horizon looked the same in all directions and we were warned about getting lost, as there were no landmarks that broke the skyline and the sun appeared to make a great circle rather than rising and setting where one would expect.

Although the Arctic plain has nearly the same annual precipitation as a desert, less than four inches, it appears as a great marsh. Ponds and lakes abound and small sluggish streams meander toward the rivers in a vast network. Even though the amount of precipitation is minimal, percolation into the soil is practically nonexistent, due to the layer of impervious permafrost just below the earth's surface. So, when the weather warms up enough for the surface snow and ice to melt, the water released has nowhere to go except to flow along the surface toward the sea.

There is a variety of land surfaces, sand dunes along the river, low gravelly ridges here and there, but the greatest area exists as "pentagonal tundra", a surface situation peculiar to the Arctic. The rigors of the climate break the surface up into five-sided plates, varying in size from 10 or 15 feet across to 75 to 100 feet for the larger ones. The individual plates were separated by cracks a few inches wide to a foot or more in width filled with icy water. The heaving action of the ice formed from this water during the winter months pushed up a low ridge around each plate. These ridges made the pentagonal pattern quite distinctive and each element a separate, somewhat concave, unit. Some had ponds forming in their centers and others were quite dry. These areas proved quite difficult and wet to walk over and one could see why Eskimos in the area, including the students, wore hip boots most of the time.

Besides its impressive pattern, the whole area was of an olive-brown color due, for the most part, to the fact that the intense cold during most of the year prevented rapid decay. The predominant plants were grasses and sedges. The outermost leaves died, became freeze-dried, and lasted for years, masking the green of the new growth. Where they occurred, copses of willow made bright green slashes across the brown and drifts of Baykinia and Bistort with tussocks of cotton grass made bright patches of color in the otherwise drab landscape.

The camp was located on a tributary of the Meade River, the Okpicksu-u, a small stream that got its Eskimo name from the willows that grew along its banks, "The Place of the Willows." The facilities consisted of a group of tents on wooden platforms and two frame buildings, the mess hall-meeting room, and the "School House". The mess hall was about 30 feet wide and 40 feet long and was dragged 50 miles from Barrow to its present site by tractor. This was done in the middle of winter over the frozen ground. The trip lasted several days and each "night" the crew would set up camp in the building. It was a feat that Dave, the principal, looked back on with a great deal of pride.

The camp was set up for Junior High-aged students and the 21 kids there were between the ages of 12 and 16 years. In addition, there were six adults, including the cook, an Eskimo woman from Barter Island. Eskimo was almost exclusively spoken between the kids, as English was a second language for all of them. Eskimo is a soft, liquid language, very pleasant to listen to. Now and again, one could hear an English expression used where there seemed to be no Eskimo equivalent, such as "No way!" There were two alarm cries used in the camp, "Tuk-tuk", which meant caribou, and "Ting-goon", which meant airplane.

The living activities and the time schedule were a cross-cultural blend, with an effort to make camp life pleasant and interesting for everyone, but breakfast at 12 noon and dinner at 11:00 p.m. took some getting used to. Twenty-four hours of sunlight helped, and pretty soon it was easy to ignore the clock. Some other aspects of the camp were quite unique also; the students' camping gear, for instance. Some used foam or air mattresses, others used caribou hides. Almost every tent had a Coleman-type camp stove in it for heat (it snowed one night). The idea of open flames and asphyxiation worried the staff, but it didn't seem to concern the kids. In addition, there were the wooden racks for hanging caribou meat and the "refrigerator", a board-lined pit dug into the permafrost. Also, there was the short-wave radio, our one link to civilization and help in case of emergency, which never worked the whole time we were there.

The instructional program at the camp turned out to be somewhat different also. The students were expected to earn points by helping with the camp work or by doing educational projects. The kids were all very cooperative and cheerfully did everything they were asked. I am not sure what a favorite activity of the girls might have been, but for the boys it was certainly hunting caribou! Twenty-five points were given for killing, skinning, and quartering a caribou and bringing the meat back to camp. This was the first outdoor education camp I had ever been involved with where hunting rifles hung on the messroom walls and were considered part of the educational equipment. For safety's sake, the principal teacher had collected the rifle-bolts and cartridges and would return them only when the boys were leaving camp to hunt.

There had been caribou in the vicinity earlier, but none had been seen for the past several days and the meat rack was almost empty. Twenty-seven people could go through a lot of meat in a short time, particularly when that was the mainstay of their diet. Then one morning, a few days after we had arrived, the cook tapped on our tent and whispered, "Tuk-tuk", and we crawled out to see bands of caribou all along the horizon, Barren Ground Caribou on their annual migration. There were small bands of four or five animals to larger bands of fifty or more. The larger bands were mostly cows and calves with a few bulls with them, huge, regal animals with great racks of antlers. The younger bulls were in smaller groups. The area seemed alive with them and they were all headed in the same direction, west.

The camp was a buzz of quiet activity. No one spoke, but the boys were dashing toward the mess hall for their rifles and the principal teacher was passing out cartridges. The hunters then slipped off to try to get their twenty-five points and food for the table. The younger bulls were their targets. Most of the boys had rather small caliber rifles. Dave explained that caribou seemed not to be able to "carry much lead", so a relatively light wound would cause them to collapse and then be easily killed.

Soon, after a few short volleys of rifle fire, the herds disappeared. Caribou are the fastest animals in the Arctic and they proved it. Later, the hunters returned, many of them carrying quarters of caribou meat; heavy, hard work across the wet, spongy tundra.

Then the girls took over, finished the butchering and hung the meat on the racks where it would partially dry. Several of the boys hoisted a flag of sorts on the mess hall roof to announce to the neighbors that there was meat in camp and they were welcome to come and help themselves.

My responsibility was to organize activities that had to do with Science or Environmental Education. This was my work for the Seattle Public Schools, but to do this for Eskimo students in the Arctic was a little bit out of my usual area of expertise. Needless to say, I think that I was the one who learned the most. One activity required testing the soil's acidity. I expected it to be quite acid like most marshy appearing areas, but instead, it was neutral. Surprising perhaps, until one thought of the slow rate of decomposition and the complete flushing of the surface of the land after each spring thaw. Another part of the activity was to measure soil temperature. Imagine the data, when less than eight inches below the surface it was solidly frozen, and this was mid-July! The slow, slow rate the vegetative surface would repair itself after it was damaged was also evident. Caribou trails would last for centuries, although they were used a relatively short time each season. Disturbed areas around old campsites could be noticed years after the camp had been abandoned. I was also struck by the shortness of the blooming period for most species. Some of the things that I saw in bloom when we first arrived were gone by the time I got my camera ready to photograph them and others had taken their place. It may be that the twenty-four hours of daylight had something to do with this. The plant shapes of some of the species were also interesting, particularly one plant of *Silene acaulis*, past blooming, its slow rate of growth and the action of the wind made it look like a fuzzy, green volleyball. Think of its age! One careless kick could destroy the life of a century.

It was hard to compete with caribou hunting, but one activity the kids seemed to enjoy was working with the pond life they found in the waters around the camp. The temperature had warmed up somewhat and every pond and stream was alive with micro-organisms. Using nets and large syringes, the students filled plastic aquaria with what proved to be living soup. These they carefully carried back to the schoolhouse and examined it under microscopes. Great sounds of amazement, and to think they had been drinking that stuff! The reaction to this discovery spread around to the point where several Eskimo families, camped nearby, walked over to see the horrors themselves. Even a bush pilot made a special landing to check things out, took a long studied look through the microscope and vowed to stick to coffee.

One of the activities that Grace and I took part in, and enjoyed, were the nature walks. The groups were usually small and the principal teacher always insisted that we take one of the older boys along, armed with a rifle, just in case. Just in case of what?! These walks gave us a good opportunity to become better acquainted with the students on a personal basis. For some, life in Barrow and the activities of their families were causing them to become "city kids" and they were becoming somewhat estranged from their natural environment. Yet others whose families were remaining subsistence hunters were well acquainted with the Arctic. Just as soon as school was out in the spring and the weather permitted, their families would head out to the hunting and fishing camps. Year after year, these camps would be in the same location and the kids would be just as much at home there as they would be in Barrow. After a summer of gathering traditional food items, the family would head back for the next school year.

We asked more questions than they did. It was interesting, these young people were not alienated from the environment but, like many of us, if "it" had a use or a practical purpose of some sort, then "it" had a name, but if there seemed to be no purpose, then "it" was relegated to indifference. But, the students were great teachers and the teachers were reasonable learners.

It was during these walks that I became intrigued with the great variety of plant life on the tundra. At first impression, it seemed to be a vast monotonous sheet of grasses and sedges, but such was not the case. There was not only a wide variety of plants mixed with the grasses in the pentagonal tundra, but all the other types of land surfaces as well. Each kind created a different ecosystem with a group of plants unique to that habitat. There was a copy of Eric Hulten's Flora of Alaska at camp and I poured over it. Also, I had been a student of the late Professor C. Leo Hitchcock when I attended the University of Washington. Besides being an excellent teacher, he was also an eminent Taxonomist and a co-author of Vascular Plants of the Pacific Northwest, a highly comprehensive flora.

I had joined Dr. Hitchcock as an assistant on a number of his field trips when he was collecting plants, particularly in Montana and Washington. Most of our collecting was done on alpine meadows or high mountain scree and there were some similarities in the flora for the Arctic plain and the high southern mountains, so quite a number of things I saw were familiar to me; many were not.

It seemed to me that there were several situations that could explain the mix of plants at sea level and at this latitude (71° North). A species might be a northern extension that would be a high alpine species in a more southern latitude, or it might be a circumpolar, Arctic species, or it might be an Arctic species growing in small, isolated areas only. Some genera were comprised of a large number of species; for instance, there were thirteen species of *Salix* that could be found in the general area, although I found only four.

Faced with this amazing array of plant life, another student project suggested itself, that of making a collection for the Herbarium at the University...and we did. The attached list indicates the specimen collected by the students during two afternoons and within a quarter-mile of camp. The sixty-five on the list, coupled with about thirty-five that I had photographed earlier gives an idea of the number of species of the area. I have no doubt that had we started earlier, and had gone farther afield, our list would have gone well over one hundred species.

In retrospect, the Arctic Tundra was one of the most unique ecosystems that I have ever had the opportunity to study. Vast, remote, and beautiful, yet very unforgiving, it is full of surprises and contradictions. A plant cover that has evolved over thousands of years to withstand the most rigorous of climates, yet even a small amount of surface damage will take years to recover. Barren Ground Caribou that exist in the greatest herds since the American Bison, yet individually are the easiest of the big game animals to confuse and kill. A native American culture that has met more difficult and demanding conditions than almost any other culture that has ever existed, yet is collapsing and will barely be recognizable by the end of the next century. The Arctic must be studied with care and sensitivity. It must be protected and preserved. There is no other place like it and, despite its vastness, we have it in our capabilities to make changes and create conditions from which it will never recover.



Fig. 3
Dryas integrifolia

Reprinted from Alaska Trees and Shrubs
by Leslie A. Viereek and Elbert L. Little,
U.S.D.A. Handbook No. 410

ALASKA PLANTS

N. = Northern

Mt. = Mountain

1. <i>Cardamine richardsonii</i> Hult.	Richardson Bitter-cress
2. <i>Lupinus arcticus</i> Wats.	Arctic Lupine
3. <i>Anemone parviflora</i> Michx.	Northern Anemone
5. <i>Lloydia serotina</i> L.	Alp Lily
6. <i>Anemone richardsonii</i> Hook.	Yellow Anemone
7. <i>Papaver macounii</i> Greene	Macoun Poppy
8. <i>Senecio atropurpureus</i> (Ledeb.) B. Feditsch.	--
9. <i>Papaver radicum</i> Rottb.	Arctic Poppy
10. <i>Pedicularis langsдорфii</i> Fisch.	Langsdorf's Lousewort
11. <i>Pedicularis sudetica</i> Willd.	--
12. <i>Dryas integrifolia</i> Vahl	Entire-leaved Mt. Avens
13. <i>Pedicularis capitata</i> Adams	Capitate Lousewort
15. <i>Saxifraga hirculus</i> L.	Yellow Marsh Saxifrage
16. <i>Salix arctolitoralis</i> Hult.	
17. <i>Boykinia richardsonii</i> (Hook.) Gray	Richardson Saxifrage
18. <i>Draba alpina</i> L.	--
19. <i>Valeriana capitata</i> Pall.	Capitate Valerian
20. <i>Polemonium acutiflorum</i> Willd.	--
21. <i>Saxifraga punctata</i> L.	Brook Saxifrage
22. <i>Cassiope tetragona</i> (L.) D. Don	Four-angled Mt. Heather
23. <i>Pyrola minor</i> L.	Lesser Wintergreen
24. <i>Ledum decumbens</i> (Ait.) Lodd.	Narrow-leaved Labrador Tea
25. <i>Polygonum bistorta</i> L. ssp. <i>plumosum</i> (Small) Hult.	Alpine Bistort
26. <i>Armeria maritima</i> (Mill.) Willd.	Sea Pink
27. <i>Oxyris digyna</i> (L.) Hill	Mountain Sorrel
28. <i>Pedicularis sudetica</i> Willd.	--
30a <i>Saxifraga hirculus</i> L.	Yellow Marsh Saxifrage
30b <i>Draba densifolia</i> Nutt.	Nuttall's Draba
30c <i>Chrysosplenium tetrandrum</i> (Lund) Fries	N. Water Carpet
31a	
31b <i>Saussurea angustifolia</i> (Willd.) DC.	--
31c <i>Lychnis apetala</i> L.	Nodding Lychnis
32. <i>Hedysarum alpinum</i> L. var. <i>americanum</i> Michx.	American Hedysarum
33. <i>Arenaria elegans</i> C. & S.	Ross Sandwort
34. <i>Stellaria longipes</i> Goldie	Long-stalked Starwort
35. <i>Parrya nudicalus</i> (L.) Regel.	--
36. <i>Lagotis glauca</i> Gaertn. var. <i>stelleri</i> (C. & S.) Trautv.	--
37. <i>Cardamine pratensis</i> L.	Cuckoo Flower
38. <i>Astragalus alpinus</i> L.	Alpine Milk Vetch
39. <i>Carex scirpoidea</i> Michx.	N. Single-spike Sedge
40. <i>Delphinium brachycentrum</i> Ledeb.	N. Dwarf Larkspur
41. <i>Artemisia tilesii</i> Ledeb.	--
42. <i>Arenaria physodes</i> Fisch.	Merckia
43. <i>Andromeda polifolia</i> L.	Bog Rosemary
44. <i>Androsace chamaejasne</i> Host. ssp. <i>lehmanniana</i> (Spreng.) Hult.	

ALASKA PLANTS
(Continued)N. = Northern
Mt. = Mountain

45. <i>Arenaria obtusiloba</i> (Rydb.) Fern.	Alpine Sandwort
46. <i>Artemisia glomerata</i> Ledeb.	Mountain Wormwood
47. <i>Arnica lessingii</i> (T. & G.) Greene	--
48. <i>Betula nana</i> L. ssp. <i>exilis</i> (Sukatch.) Hult.	Dwarf Alpine Birch
49. <i>Castilleja pallida</i> (L.) Spreng.	--
50. <i>Eritrichium aretioides</i> (C. & S.) DC.	--
51. <i>Gentiana arctophila</i> Grieseb.	Arctic Gentian
52. <i>Senecio hyperborealis</i> Grennm.	--
53. <i>Senecio congestus</i> (R. Br.) DC. var. <i>palustris</i> (L.) Fern	Marsh-Fleabane
54. <i>Tanacetum bipinnatum</i> (L.) Schultz-Bip.	--
55. <i>Tofieldia pusilla</i> (Michx.) Pers.	Scotch Asphodel, False A.
56. <i>Saxifraga cernua</i> L.	Nodding Saxifrage
57. <i>Ranunculus pedatifidus</i> J.E. Smith	N. Buttercup
58. <i>Saxifraga hieracifolia</i> Wallst. & Kit.	Hawkweed-leaved Saxifrage
59. <i>Silene acaulis</i> L.	Moss Campion, Moss Pink
60. <i>Saxifraga oppositifolia</i> L.	Purple Mt. Saxifrage
61. <i>Polygonum viviperum</i> L.	Alpine Bistort
62. <i>Parnassia kotzebuei</i> C. & S.	Kotzbue Grass-of-Parnassus
63. <i>Oxytropis scammaniana</i> Hult.	Scamman Oxytrope
64. <i>Polemonium pulcherrimum</i> Hook.	Showy Polemonium
65. <i>Vaccinium vitis-idaea</i> L.	Mt. cranberry, Lingen Berry



THE BERRY BOTANIC GARDEN

ANNUAL SPRING PLANT SALE

SATURDAY, APRIL 19, 1986

MILLER HALL, WORLD FORESTRY CENTER

HOURS: 12:00 - 3:00

This year you can expect to find:

- * Seedlings and started plants from the Berry garden's unique collection, including Oregon native plants.
- * Local plantsmen and nurseries offering an enticing selection of herbs, alpine, perennials, dwarf conifers, and unusual woody plants.
- * For the first time, hand-thrown pots out of clay and stoneware by Tony Hackenbruck, especially suitable for deep alpine planting.
- * Horticultural books by Timber Press.

The proceeds of this sale support the Berry Garden and its research and development projects. We hope to see you there!

For more information, call The Berry Botanic Garden, 636-4112.



INTRODUCING MR. TIMOTHY HOHN

Dr. Harold B. Tukey, Jr.

On the unanimous recommendation of the Search Committee, the position of Curator of Plant Collections in the Center for Urban Horticulture has been offered to Mr. Timothy Hohn and he has accepted. He expects to join the staff on June 1.

Mr. Hohn received a B.S. degree in Communications from Western Michigan University, a second B.S. degree in horticulture from Michigan State University, and expects to complete his M.S. degree in April from the Longwood Program of the University of Delaware.

Mr. Hohn has worked as a landscape gardener, manager of landscape operations, cooperative extension agent with the University of Georgia and, most recently, as Curator of Plants at the New York Zoological Society. He brings a knowledge of landscape plants, managerial experience with both plant collections and the people who work with them, communications skills, and strong leadership abilities. Among his first tasks upon arriving in Seattle will be to become familiar with the landscape flora of the Northwest, help to develop collection policies for the Center at both the Union Bay and Arboretum sites, work with the horticulturists who maintain the collections, and to become acquainted with gardeners and plant societies of the Puget Sound area. I am pleased that a person of the leadership caliber of Mr. Hohn has joined the other fine horticulturists already on the Center faculty and staff.

Mr. Hohn's wife, Cheri, is a horticulturist in her own right, with professional interests in horticultural therapy.



The Friends of the Medicinal Herb Garden are sponsoring a spring lecture series, Medicinal Herbs: History and Uses, through University of Washington Extension. Topics will be:

Plants in Plateau Indian Folk Medicine, 16 April
Eugene Hunn, U.W. Anthropology

Herbal Medicine in the History of Chinese Medicine, 23 April
Paul Buell, W.W.U. East Asian Studies

Current Uses of Medicinal Plants and Acupuncture, and Traditional Chinese Medicine, 30 April
Mark Nolting, N.D., C.A.

Plants and Cultures, 7 May
Iain Robertson, U.W. Landscape Architecture

Series tickets are available through University Extension for \$38.00. Register for EDP:M1034. Tickets to individual lectures will be available at the door for \$8.00 on a space available basis. Series ticket holders may sign up for a May 10 tour of the Medicinal Herb Garden led by Rhonda Hume, N.D. on a first-come, first-served basis. Part of the fee supports maintenance and improvements in the garden. For more information, call University Extension at 543-2300.



NOHS NURSERY SNOOPER VISITS TED AND SANDY MILAM! NURSERY

Pat Bender, Seattle, Washington

With a recorder in our hands and cash in our pockets, your compulsive buyer Nursery Snooper and equally acquisitive Editor set out for the nursery of Ted and Sandy Milam. Just a tufa throw from Northgate and on a lot only 60 feet by 180 feet, they grow an amazing variety of unusual plants. Picture a ground cover of *Clematis alpina*, a mass of *Gentian acaulis* so enthusiastic that Ted said he would have to cut it back, a barrel full of *Polygala chamaebuxus*, and *Daphne* germinating like alfalfa.

Although the Milams moved to their home about 10 years ago, they have been serious alpine gardeners for only about four years. (All this in four years?) They had visited Art and Mareen Kruckeberg to buy plants for their garden and, through them, had jointed the American Rock Garden Society. Ted grows most of his plants from seed, both from exchanges and from plants growing in the wild. This sometimes results in mysterious, but beautiful, plants. Propagation is done out of doors in an open sided, fiberglass roofed structure which allows him to keep his stock dry, but airy, in winter. Ted seldom waters during the winter, feeling that plants are better bone dry than rotting off in cold weather. It works!

Although the Milams do not have a large stock to sell as yet, they have crowded innumerable plants into screes, tufa beds, rock gardens, perennial areas, and vegetable gardens. From the combination of their own stock plants and those grown from seed, they are gradually acquiring more to sell. Their stock is in beautiful condition, often rare, and reasonably priced. Please call before coming. You will know it is the right place when you see the rock garden in front, and the Welsh Corgi in back. (Just throw her the Frisbee and she will be your friend for life.)

Ted and Sandy Milam
12214 - 1st Avenue Northeast
Seattle, Washington 98125
(206) 364-6932



PLANT SALE!

The Friends of the Medicinal Herb Garden are sponsoring a plant sale at the University Village outdoor mall (across from QFC) on Saturday, May 17, from 10:00 a.m. to 6:00 p.m. Many popular culinary herbs, as well as some more unusual varieties will be available. Funds from the sale go to maintenance and improvements in the Medicinal Herb Garden on the University of Washington campus. For more information on the sale or the Garden, call 543-1126 weekday mornings.

BOOK REVIEW: MANUAL OF CULTIVATED BROAD-LEAVED TREES AND SHRUBS, Gerd Krussman, Timber Press, Portland, Oregon, Volume I (A-D), 1984, \$65; Volume II (E-PRO), 1985, \$65. Subscription price when ordering the completed three volumes, \$58.50 each.

Originally published in German in four volumes, beginning in 1976, this monumental work is now available to us in English, the third and last volume now in preparation to be available this year. The author, Dr. Gerd Krussman, was formerly Director of the Dortmund Botanic Gardens and of the German National Rosarium. He served as consultant and adviser to many associations, societies and periodicals, and also is well known as the author of Manual of Cultivated Conifers.

Translating, updating and revising the text was done by Michael E. Epp, formerly associated with Hilliers' Nursery and Arboretum and the Dortman Botanic Gardens. The Technical Editor, Dr. Gilbert S. Daniels, was formerly Director of the Hunt Institute and President of the American Horticultural Society.

It is difficult to do justice to a review of a set of horticultural reference books of 1,500 pages, in which 796 genera, 5,400 species and over 6,000 cultivars are described. From the title, Manual of Cultivated Broad-Leaved Trees and Shrubs, one might think that "cultivated" would limit the scope; however, in actually looking up rare and unusual trees and shrubs seldom seen in cultivation, not only were those listed and described, but profusely illustrated by excellent botanical drawings.

If there is a weakness in a horticultural work written in Europe, it is often in the treatment of the trees and shrubs of American origin, particularly those native to the western section of the country. This was not found to be the case in Krussman, as even some of the rarer American natives are described accurately and expertly. The more genera of particular interest that I look up, the more convinced I am that this set of encyclopedias will become one of the most used and useful parts of my reference library. I am certain that shortly I will wonder how I ever got along without it.

Volume I (448 pages) begins with a well-illustrated guide to terminology used, including leaf shapes, margins, arrangement, forms of crowns, direction of growth, inflorescence, etc. There is even an alphabetical reference to botanical terminology in five languages, explanation of symbols, hardness maps of Europe, North American and China, and a temperature conversion chart. There follows a list of abbreviations to other reference works, one or more of which are found at the end of most plant descriptions. There are excellent botanical drawings, distribution maps, graphs; at least one on almost every page, sometimes two or three, as well as entire sections of black and white photographs, mostly good, although I personally learn much more from the fine detailed drawings.

There is an alphabetical listing of the Genera, *Abelia* to *Duranta*, which includes botanical descriptions, native habitat, symbols to horticultural properties, cultivation, propagation, and of great value is the reference to one or two publications where the subject is more fully treated.

Volume II (445 pages) repeats some of the important explanations, such as alphabetical reference to botanical terminology, of symbols, and lists of abbreviations, etc., so that it is unnecessary to have to refer back to Volume I to understand the text. The main text includes the alphabetical listing of Genera, *Eccremocarpus* to *Protea*.

The Manual of Cultivated Broad-Leaved Trees and Shrubs is a beautifully produced, quality publication, 8-1/2" x 11" in size, hardbound. In ordering the three volumes at once, you can take advantage of the 10 percent subscription discount price of \$58.50 per volume. I can enthusiastically recommend this outstanding publication to every serious gardener as an important addition to his reference library. I look forward to Volume III, which will be available shortly from Timber Press, 9999 S.W. Wilshire, Portland, Oregon 97225.

* * *

BOOK REVIEW: *SAXIFRAGES AND RELATED GENERA*, Fritz Kohlein; 220 pages with 51 black and white and 68 color illustrations. \$34.95 from Timber Press, 9999 S.W. Wilshire, Portland, OR 97225.

Some books have a look and feel about them that attracts the potential buyer. In this case, the whole production is of good quality, with readable print size, emphasized with bold type when appropriate, making it thoroughly attractive.

However, no book is perfect, and a reviewer has to draw attention to any imperfections in as objective a manner as possible. Opinions of books are naturally subjective, one aspect appealing to one reader, another to the next and so on. Those deeply into saxifrages will no doubt quarrel with some of the mistakes throughout the *Porophyllum* Section, and one or two of the color plates are suspect. Nevertheless, the color plates are helpful, albeit lacking a sparkle and sharpness that is essential today. A particularly annoying feature is the total absence of any cross-references between text and illustrations. That having been said, the book has some excellent cultural hints, with first-class line drawings in the early chapters. Propagation is covered thoroughly and the few pests and diseases dealt with briefly but competently.

For the gardener, the chapters on Garden History, Raising of New Varieties and Classification into Sections, could be given a miss, for the main attraction of the book lies in the species, hybrids and varieties described.

Other members of the Saxifrage family are considered briefly and, frankly, inadequately, in the penultimate chapter, and the final chapter consists of peculiar lists of saxifrages for special purposes.

Notwithstanding the criticisms, this book is on the whole a good and useful addition to the library of the gardening enthusiast.

Michael Upward
Surrey, England

* * *

BOOK REVIEW: MOUNTAIN SPLENDOUR. The Wild Flowers of the Drakensberg. By R. O. Pearse. Howard Timmins, Capetown, Publ. 1978.

The roof of South Africa is formed by a colossal chain of mountains extending down through the eastern part of the Republic. The heart of this vast set of mountains is the high Drakensberg (the 'dragon's mountains'), forming a lofty boundary between coastal Natal, the Orange Free State to the west and the high veld of the Transvaal to the north. One whole independent nation, Lesotho, is swallowed up in the Drakensberg.

The Drakensberg has been long known to harbour botanical treasures, many of known horticultural value or with high potential for gardens. Most of the rest of the dazzling, bizarre, diverse South African flora is not for our gardens in the Northwest; we are either too wet or too cold. But the high Drakensberg, climaxing at 10,000 foot summits and plateaus, does have a flora that should find parts of the Pacific Northwest hospitable. It was this potential of garden treasure that urged the Kruckeborgs to spend some time scouting the Drakensberg flora in November of 1984.

We had our expectations marvelously conditioned by Pearse's beautiful and authoritative book on the Drakensberg, a book so aptly named, Mountain Splendour. Many truly outstanding plants are illustrated with Pearse's own excellent color photos, and each species is carefully described as to its features, habitats, and uses by native peoples. In fact, we used Pearse's book to make up our 'wish list' of plants meriting introduction.

Mountain Splendour is the 'open sesame' to discovering the rich and colorful variety of the Drakensberg flora. The emphasis in the quarto-sized book is on bulbs and corms in the monocot clan (*Gladiolus*, *Watsonia*, *Albuca*, *Galtonia*, *Scilla*, etc.), as well as showier dicot herbs in both familiar genera (e.g., *Anemone*, *Ranunculus*, *Myosotis*) and ones wholly restricted to South Africa or the Southern Hemisphere. A few trees and shrubs are figured, especially *Protea*, *Halleria*, *Greyia*, all southern hemisphere genera that occur in the mid-montane (Little Berg) elevations of the range. These latter woody species are unlikely to be hardy in the Seattle area. But the highest proteas might be worth a try. Other genera from the higher reaches of the Drakensberg are well worth testing. Salivate over the following: *Erica* species (South African heathers), *Ranunculus baueri*, *Anemone fanninii*, the penstemon-like *Diascia* species, *Phygellus* and *Sutera*. Daisies of the *Helichrysum* and *Osteospermum* genera; and of course many lily relatives in *Albuca*, *Eucommis*, *Agapanthus*, *Scilla*, *Galtonia*, and iris kin like *Cyrtanthus*, *Dierama*, *Gladiolus* and *Watsonia*. All have species growing at high altitude; they merit trial in the Northwest.

After Pearse's book whets the gardener's appetite, the next step is acquisition. A number of nurseries and seedsmen handle Drakensberg plants. They advertise in Veld and Flora, the popular journal of the South African Botanical Society. Membership in the SABS also yields an annual seed list (all native species) from Kirstenbosch Botanic Garden. Some of the Drakensberg plants appear here. A thrilling complement to using Pearse's book is a visit to the Drakensberg. It is quite accessible via approaches by car and then by trail through western Natal. Fine accommodations can be found in this area as well. Once near this nirvana of alpine flora, the visitor should

pay a visit to the Drakensberg Botanical Garden at Harrismith. This fine garden, once one of the satellite gardens of the National Botanic Garden system, is devoted to native Drakensberg flora.

A final warning! Once you have barely skimmed through Pearse's Mountain Splendour for the first time, you will be smitten -- with the Drakensberg flora and with the beauty of the book.

A. R. Kruckeberg

* * *

BOOK REVIEWS: THE SMALLER RHODODENDRONS, Peter A. Cox, Timber Press, Portland, Oregon, 1985, 216 pages, \$29.95.

I was asked, "Should I buy The Smaller Rhododendrons when I already have Peter Cox's Dwarf Rhododendrons?" "Certainly," I replied; just as one can be neither too rich nor too thin, neither can one have too many rhododendron books. This fatal character flaw has enriched my library and impoverished my husband. However, in this case, it is true. As Mr. Cox says in his introduction, "Much has happened in the rhododendron world since Drawf Rhododendrons...there was little point in attempting to revise that book...Since 1973, the now almost completed Edinburgh Revisions have appeared. So has Mr. H. H. Davidian's first volume of The Rhododendron Species...China has to some extent reopened to western visitors and botanists...The Smaller Rhododendrons attempts to incorporate many of these developments into one volume. As in The Larger Species of Rhododendrons, I follow the Edinburgh Revisions. This is not to say I agree with all the changes that have been made...."

Mr. Cox discusses the conflict between the Cullen, Chamberlain, Phillipsons Revisions and those of Mr. Davidian; he tends to accept the former, but respects the "exceptional knowledge" of the latter. No matter -- the index makes it easy for those of us who know the old names to find the new ones, with their subsections and subgenera.

As in Dwarf Rhododendrons, he includes a list of species and hybrids, but in the case of the hybrids, he provides an alphabetical list by type and color. No longer are the plants listed in a miserable chart at right angles to the rest of the book -- a chart requiring a magnifying glass to decipher. For this improvement alone, I had to have the book. The lists of plants are updated to include more modern hybrids, but many of those listed are available only in England. There are additional lists of favorite plants, recommended ones, and a list of nurseries in many areas of the world. (There was a local rhododendron nursery I didn't know about -- how could that be?) The chapter on propagation has been updated, but many of the illustrations are the same in both books.

For those of us who raise Vireyas, Dwarf Rhododendrons has more useful information, but neither book offers very much on the subject. He offers some information on dwarf rhododendrons in their "natural habitat" and in the garden, as well as planting and maintenance advice. However, The Smaller Rhododendrons is most useful for its lists of plants and the explanation of the new nomenclature. Buy it -- you'll like it.

Pat Bender

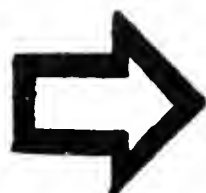
* * *

BONSAI



INTERESTED ??

ONE OF AMERICA'S BEST
SOURCES OF POTS, TOOLS,
BOOKS AND TREES IS LOCAL



SHARON MUTH
16651 S.E. 235th Street
Kent, Washington 98031
phone: (206) 631-1318
by appointment only

Fern Festival

Center for Urban Horticulture



JUNE 13th

10 to 12 Kruckeberg Garden Tour \$5.00
20066 - 15th NW - Seattle
(206) 546-1281

1 to 5 Fern Sale (at the center)

8 pm Lecture \$4.00 Ferns of Britain & Ireland
By Chris Page - Royal Botanic Gardens of Edinburgh



JUNE 14th

10-2 Fern Sale

For Further information call
Sue Olsen 747-2998



NORTHWEST LAND DESIGN

MARTIN E. WALTERS, R.B.G. CERT.

523-7911

SEATTLE

Free Estimates & Review of Portfolio

DESIGN/INSTALLATION/CONSULTATION

- Sprinkler Systems
- Decks, Patios, Fences
- Rock Work
- Lawns, Planting Beds
- Ponds, Waterfalls
- New/Renovation

* State Contr. Reg. No. NorthLD169J1

Trained at the Royal Botanic Gardens, Kew

Smith
& Hawken
offers the finest
durable tools,
forged and crafted
by hand in England:
forks, spades, shovels,
women's tools, watering
cans, hoes, rakes, trowels,
pruners, shears and more.

**SMITH
& HAWKEN**
TOOL COMPANY

FREE mail
order catalog
of classic tools.

68 Homer, Dept. N89, Palo Alto, CA 94301



FINE ENGLISH GARDENING TOOLS



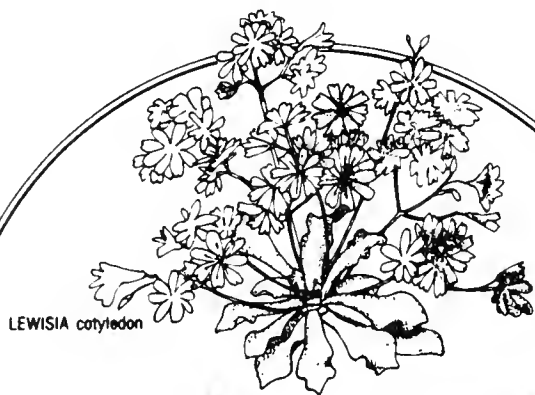
DIXIE NATIVES

LARGE SELECTION OF NURSERY-
GROWN SOUTHERN NATIVES AND
RARE EXOTIC SPECIES FORMERLY
UNAVAILABLE ON WEST COAST.

PLEASE SEND S.A.S.E. FOR
OUR FREE MAIL-ORDER LIST.

WOODLANDERS

1128 COLLETON AVE., AIKEN, S. C. 29801



LEWISIA cotyledon

SISKIYOU RARE PLANT NURSERY

brings you over 700 alpine, woodland, and
rock garden plants, including 100 Northwest
natives and 60 rock ferns. All plants care-
fully selected, packed, and shipped to your
door. New Annual Spring Catalog and Fall
Supplement, \$1.50. Visitors by appointment.

J. Cobb Colley and B. Mineo
Proprietors

2825 Cummings Road, Medford, Oregon 97501 (503) 772-6846



WELLS-MEDINA

Nursery

FLOWERING SHRUBS & TREES
SHADE TREES - FRUIT TREES
VINES & GROUNDCOVERS

PLUS MANY OF THOSE
UNUSUAL PLANTS THAT
MAKE GARDENING A DELIGHT

8300 N.E. 24th St.,
Bellevue

454-1853

Japanese Maples

many
beautiful cultivars
descriptive price list
\$1.00

Hughes Nursery

1305 Wynooche W

Montesano, Washington 98563

NURSERY

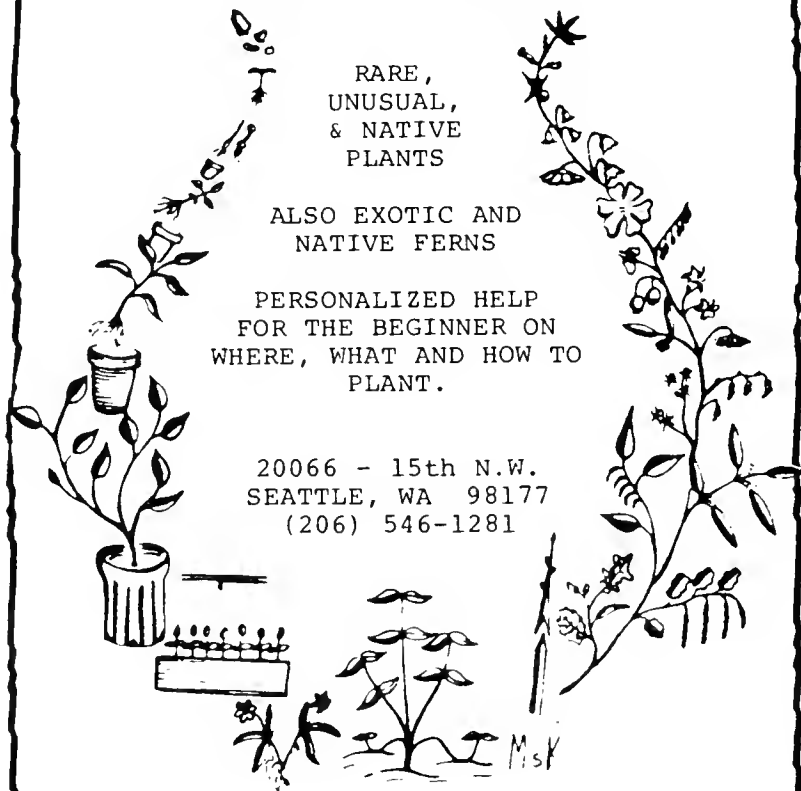
MAREEN S. KRUCKEBERG

RARE,
UNUSUAL,
& NATIVE
PLANTS

ALSO EXOTIC AND
NATIVE FERNS

PERSONALIZED HELP
FOR THE BEGINNER ON
WHERE, WHAT AND HOW TO
PLANT.

20066 - 15th N.W.
SEATTLE, WA 98177
(206) 546-1281



"Oaks a specialty"

*A new way
to collect or to
give hardy heaths
and heathers...*

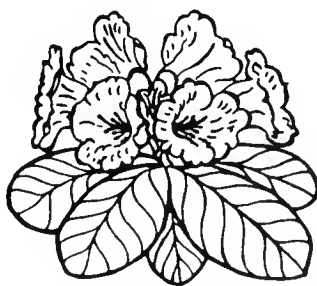
*We ship
almost
anywhere!*

Free brochure



Heaths & Heathers
Box 850, Elma, Wa. 98541
(206) 482-3258

Justly Famous For Rhododendrons



**G
R
E
E
R**

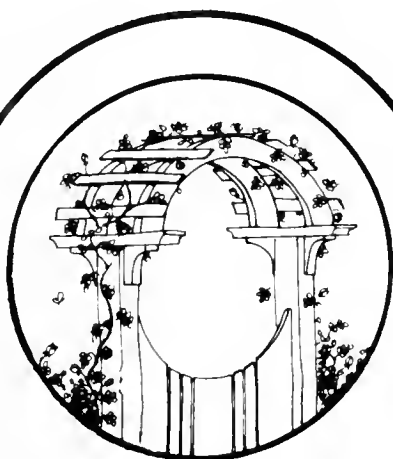
**G
A
R
D
E
N
S**

Azaleas
Japanese Maples
Dwarf Conifers
Bonsai Materials
Flowering Trees & Shrubs
Rock Garden Plants

Good selection of
unusual Horticulture Books —
Color catalog describes, prices over 1600 plants.
Widely recognized as a valuable reference book.
\$2.00. World Wide Shipping.

Dept. HN

1280 Goodpasture Island Road
EUGENE, OREGON 97401
Telephone (503) 686-8266



GARDEN CARPENTRY

- ARBORS • GAZEBOS
- BENCHES • TRELLISES
- DO-IT-YOURSELF KITS
- CUSTOM WORK

767-9368
FREE BROCHURE

7725 - 12th S.W.
SEATTLE, WA 98106



Imprints

HAND COLORED
ANTIQUE PRINTS

Orchids
Roses
Vines

Cactus
Bulbs
Shrubs

*Annuals and Perennials
Plus many more!*

Doreen Johnson
Equine Art
206-825-5958

Nora Johnson
Botanical Prints
206-883-6672

31404 S.E. 392nd, Enumclaw, WA 98022



European plant
baskets from Molbak's
Flower Shop

Open 7 days, 9:30 to 6

Molbak's

13625 NE 175th in Woodinville
Phone: 483-5000
(from Bellevue: 454-1951)

Looking for that special plant, book or gardening
information? Contact our member advertisers. Don't forget to
tell them that you saw their ad in . . .

Horticulture Northwest

Volume 13

Number 1

Spring 1986



Northwest Horticultural Society
Center for Urban Horticulture
University of Washington GF 15
Seattle, Washington 98195

NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
BELLEVUE, WA.
PERMIT NO. 149

TIMELY MATERIAL
PLEASE EXPEDITE

ADDRESS CORRECTION
REQUESTED

